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EDITORIAL NOTE

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RELATIVE WAGES AND EARNINGS IN DIFFERENT OCCUPATIONS

1. WAGE-RATES

As a result of the movement of labour to new occupations and also from place to place, the differences in opportunity of increased earnings by piece-work or overtime, the employment of women in work normally done by men, and other changes since the outbreak of war, many inequalities in payment have developed and some which were formerly regarded as normal are being questioned. At the same time increases in wage-rates in different industries have been spasmodic and of different amounts, and the official policy of stabilising them at their levels reached last spring is challenged.

It may therefore be useful to give a short account of wage-rates and their changes during recent years.

Changes in Average Rates of Wages, 1933 to 1941
United Kingdom.

	Percentage Increases 1933 *to* 1938	*Percentage Increases* 1938 *to* 1941	*Cash Increase Weekly* 1938 *to* 1941	*Average Weekly Rate November* 1941
Men : Time Rates				
Engineers :				
Fitters	12	16	10s. 6d.	76s. 3d.
Labourers	16	21	10s. 6d.	60s. 0d.
Shipbuilders	17	19	10s. 6d.	65s. 6d.*
Railways...	3†	16	11s. 0d.	79s. 7d.
Docks	15	15	11s. 0d.	84s. 0d.
Building :				
Bricklayers	11	16	11s. 6d.	84s. 0d.
Labourers	11½	20	11s. 3d.	65s. 6d.
Local Authorities :				
Labourers	9	19	10s. 9d.	67s. 0d.
Trams	11	18	11s. 3d.	75s. 0d.
Lorries	10	19	13s. 0d.	82s. 6d.
Printers	0	13	10s. 0d.	85s. 6d.
Agriculture‡	12	74	25s. 6d.	60s. 0d.
All Employed :				
Coal per shift	24½	42	26s. 0d.	88s. 0d.
Men and Women—Time and Piece :				
Cotton	8	13	11s. 6d.	47s. 0d.§
Wool	8	32½	11s. 0d.	50s. 0d.§
Women's Minima :				
Bootmaking	15	21	8s. 0d.	46s. 0d.
Confectionery	7	21	6s. 0d.	35s. 0d.
Tailoring	7	23	7s. 0d.	37s. 0d.
Shirts	7	23	7s. 0d.	37s. 0d.
Tobacco	0	22	8s. 6d.	47s. 0d.
Weighted average ...	11	23½		
Cost of Living Index ...	12	27		

* Unskilled.

† 10 per cent. in average earnings.

‡ December 28th, 1941.

§ Earnings, men, women, boys and girls.

Note to Table.

The Court of Arbitration has awarded a flat increase of 5/- a week for all men in the engineering and shipbuilding industries. This raises the percentages in the second column for fitters from 16 to 23½, for labourers from 21 to 31, and for shipbuilders from 19 to 27¾. The weighted average of all wage rate increases 1938-1941 will be raised from 23½ to 26.

A clear distinction is necessary between rates of wages and earnings. By rates of wages are meant the amounts payable for a normal week's work, from 44 to 52 hours in different occupations, whether time rates or the average earned in the same hours on a piece basis. By earnings we understand the sum actually received for a week's work, including overtime or night work, bonuses, etc. These additional payments are fixed in relation to wage rates, which generally form the basis of any formula for additional payments. Such formulae have in general not been changed since the outbreak of war, but facilities for making high earnings on price-rates have increased, and such anomalies as those which enable boys and untrained men and women to make high earnings on easy piece-work have not been remedied.

In the first part of this article we deal with time-rates, and the second part with the change in earnings.

The occupations listed in the accompanying Table are those for which their wages form the basis of the Wage-rate Index Number compiled for the London and Cambridge Economic Service and quoted in the Bank of England Statistical Summary. In its formation, in 1924, occupations were selected for which current wage-changes could readily be ascertained, and were weighted in such a way as to include skilled and unskilled workers, men and women, and to some extent time and piece rates, in due proportion. It has been possible to test the index from time to time by more complete investigations, and to check its movements month by month with the summary of changes (also for payments for the normal week) recorded in the Ministry of Labour Gazette.

The data are of various kinds:—

Time wages for normal week:—engineers' fitters and labourers, employees of Local Authorities, printers' compositors; in each case the average of selected towns. Railways in Great Britain. Agriculture, County Minima for ordinary labourers.

Hourly rates:—builders in selected towns.

Daily:—dock labourers in principal ports.

Piece-rates, in some cases combined with time-rates:—cotton, wool, shipbuilding.

Earnings per shift:—coal.

For women:—Trade Boards Minimum hourly rates in confectionary, tailoring, shifts, tobacco. Weekly minimum in boot and shoe making.

From 1924 to 1933 there was a general decline, averaging 6 per cent., but wages of builders, textiles workers and coal miners had fallen more, while engineers' rates had risen and compositors' were unchanged. The index of wage rates in 1933 was the lowest since the end of the Great War. At the same date the Cost of Living Index, which had fallen 19 per cent. since 1924, was at its minimum since its initiation in 1914, and in 1932 or 1933 'real' wages for a normal week (that is wage rates adjusted by the Cost of Living Index) were higher than at any previous date.

It is therefore convenient to begin the present account in 1933 and we may perhaps assume that relative rates of payment for different types of work were nearly in equilibrium at that date.

The first numerical column in the Table shows the percentage increases from August 1933 to August 1938. In many of the occupations the increase was not far from the general average, viz. 11 per cent., but coal had gained some of the lost ground of previous years, while textiles had not recovered. On railways, average earnings had increased 10 per cent. while time-rates for normal time had increased only 3 per cent.

In the next period, August 1938 to November 1941, most of the increases were from 18 to 23 per cent., but textiles, coal and agriculture had increased more.[1]

Of the three entries for skilled men only, printers and bricklayers had a smaller percentage increase, as had also fitters before December 10th when the award of 5/- a week increase in wages for engineers was made.

In the next column, the sum of money corresponding to these percentages is shown, and in the last column, estimated average rates for the normal week in December 1941. In most cases these amounts are definitely known. The exceptions are: railways, cotton and wool, where the average earnings of all operatives are taken for 1938 and the estimated percentage increases applied, while for coal the average earnings of all per shift in 1938 was the basis, and it is assumed that on the average 11 shifts are worked per fortnight. For docks an average week of 44 hours (5½ days) is assumed to be full work.

In the final column the wages are those of men, except for coal, cotton and wool (all operatives) and the five entries marked women.

To this list of occupations we may add workers employed by firms in the Iron and Steel Trade Employers' Federation. Their average rates appear to have increased 25 per cent. (or 19s. 3d. weekly on the assumption of eleven shifts per fortnight) since July 1938. Prior to March 1940 their rates were related to the selling price of steel, but subsequently to the Cost of Living Index.

Changes of wages since 1938 have been made on different principles of which the most important are:—

(1) Flat rate increases for all grades.
(2) Equal percentage increases for all grades.
(3) Formulae based on the Cost of Living Index.

Method (1) applies to engineers and to dock labourers in all districts and to the bulk of railwaymen. Method (2) and also Method (3) applies to the Cotton and Woollen Industries, but besides the general percentage increases, there have been numerous other adjustments.

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[1] For textiles the increase compensates the low rates and reductions at earlier dates. There were special circumstances affecting coal. The increase for agricultural labourers was due to the necessity for reducing the difference between their wages and those of unskilled workers in other occupations.

In coal-mines there has been a combination of Method (1) with local changes, based in part on profits and also on the cost of living.

There are about 200 separate agreements, some relating to very small groups, under which wage changes are adjusted in accordance with the Cost of Living Index, and the number of persons affected is roughly estimated at about 3 million. In some cases rates are changed monthly, varying with every point in the Index. In others, the rates are changed each quarter or half-year, if the index has moved 5 points. Thus for building artisans, there is normally a change of ½d. per hour (about 2½ per cent.) for each 5 points change in the index. Thus if the Index rises from 150 to 155 (1914 = 100) that is 3⅓ per cent., wages rise 2½ per cent. From August 1939 to December 1941 the Index rose from 155 to 198, but bricklayers' rates did not get the increase normally due in the early months of the war and rose only 3d. instead of 4d. or 4½d., so that the increase as shown in the Table is considerably less than that of the Cost of Living Index.[1]

Other numerically important industries now affected by the Cost of Living Index are glass, pottery, most textile industries, boots and shoes, tobacco and furniture.

Where, as with engineers and for most building operatives, the increases are of equal amount for all employees, the percentage change is of course greater for labourers than for artisans. During the war years 1915 to 1918, the additional war wages were commonly the same for all, on the ground that the increased cost of necessaries tended to fall in equal amounts on all families. The effect of this method is to modify the ratio of labourers' to artisans' rates, and of rates in different districts. Thus in the building trade the ratio of rates of labourers to bricklayers in the large towns (Grade A1) was 75 to 100 before the war and is 78½ to 100 now; while the ratio of the bricklayer's rate in small towns (Grade C) to that in London was 74 to 100 and is 77 to 100.

This tendency to less relative inequality is also seen in the Table to have some effect as between different industries.

In agriculture the increase of the County minima to a uniform 60s. has levelled N. Wales, where the pre-war rate was 32s., with Lancashire where it was 40s. 6d.

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[1] Steel workers' rates per shift increased about 14 per cent. from July 1938 to March 1940, that is in fact proportionally to the Cost of Living Index before they were governed by it. It was then arranged that rates should change 0.8d. per shift for each point in the Index. For the average employee this gave an increase of only 9 per cent. to September 1941, while the Index rose from 177 to 198, that is 12 per cent.

The minimum rates for women fixed under the Trade Board Acts varied in 1938 from 5¾d. hourly to 10¼d. according to occupation and district. At the end of 1941 there had been increases of from 1¼d. to 1¾d. (5s. to 7s. weekly); for many occupations this increase was 20 to 24 per cent., but in retail tailoring it was only 15 per cent. For men the hourly minimum rate varied from 9¾d. to 16d., average about 13d., and the general increase has been 2d. to 2½d. (8s. to 10s. weekly); the percentage increases were usually under 20, and for retail tailoring only 15.[1]

The most striking discrepancy before the war was that of the ordinary agricultural labourer earning 8d. an hour, while the municipal road worker and the builder's labourer earned over 1s. At 60s. a week the anomaly disappears, except that the builder's labourer gets this sum for 44 hours, while ordinary agricultural work is usually 50 hours in summer and 48 hours in winter, after which overtime rates are payable. But we have also to balance normal additional work (on Sundays, with animals, etc.) in agriculture against overtime in urgent building operations.

Railway workers in country districts are often recruited from their own locality. Their minimum rates before the war were 47s. in rural areas, 48s. in urban areas and 50s. in London. Railway wages generally have been raised 7s. a week, and the resulting minima therefore appear to be 5s. or 6s. lower than in agriculture. On railways overtime is paid after 48 hours and additional rates for Sunday work.

At present there is the anomaly that a man transferred from a large town, where rates are relatively high, to a country factory, is paid at his former rate (in some cases with allowance for expense of living away from home), so that different rates are payable for the same work according to the origin of the workman.

The Trade Union Council Research Department has compiled a list of changes in minimum wage-rates between September 1st, 1939[2] and October 1941 for men in 71 industries and women in 20 industries, which affords an interesting comparison with the results for the 20 industries contained in the table above. The list includes a great number of numerically unimportant occupations and excludes railways, Local Government employees and agriculture. The increases listed for men vary from 32 per cent. for Hollow-Ware (Trade Board Minimum) to 3 per cent. in South Wales Waterworks. The median rate of increase is 21, the quartiles 16 and 24, figures which are also suggested by the smaller number of entries in the Table. For women the increases vary from 36 per cent. (Coir Matting) to 12½ per cent. (match manufacture), with median 22.

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[1] It is possible that these rates were exceeded since they are only minimum rates, but no evidence is available on this question.

[2] The Table above refers to August 1938, but the only increase of any importance in the industries included before September 1939 was for engineers (2s.).

No doubt discontent has been caused by the varying success in bargaining for higher rates, and more generally by the failure of rates to move as rapidly as the Cost of Living Index, which itself is believed to under-estimate the real increase.

Any discrepancies in payments due to increased earnings rather than to rates can be considered after earnings have been studied.

A. L. Bowley.

RECENT TRENDS IN THE FINANCIAL SITUATION

1. In this article an attempt is made to analyse the changes which occurred in the financial situation between the half-year September 1940 to February 1941 and the first half of the current Budget year (April to September 1941). September 1940 to February 1941 has been chosen as reference period because it is the last half-year still covered by the estimates of the White Paper.[1]

The annual rate of Government expenditure on supply services rose from about £3,950 million in the first period to about £4,200 million in the second. These figures are actually not quite comparable because in the second period purchases in U.S.A. under the Lease and Lend Bill are not included. This, however, is irrelevant to our considerations because what is of interest in this context is the 'supply expenditure financed at home,' by which is meant the actual supply expenditure *minus* the adverse balance of payment on current account. The latter was, according to the White Paper, about £950 million per annum for the period September 1940 to February 1941, which leaves about £3,000 million for the supply expenditure financed at home in this period. For the second period in question only a very rough estimate of this figure is possible.

In the April Budget Statement the adverse balance of payment on current account for the Budget year was estimated at about £500 million exclusive of Government purchases under Lease and Lend and payments on existing orders in U.S.A. According to the statement of Mr. D. Bell, Under-Secretary of the United States Treasury, the latter payments were about £220 million between March 11th and September 1st, 1941; we thus estimate the annual rate of these payments in the period April-September 1941 at about £450 million. Together with the estimated £500 million of the 'normal' balance of payment this makes £950 million per annum. This figure does not include the Lease and Lend supplies for Government use[2] which are, however, excluded also from supply expenditure. It must be noted, that £950 million is rather an overestimate since £500 million rate of the 'normal' balance of payment relates to the whole financial year and it was probably lower in the first half of it. Subtracting £950 million from the £4,200 million rate of supply expenditure in the first half of the Budget year, we get therefore the 'supply expenditure financed at home' at £3,250 million a little too low. An upper limit for this figure may be obtained as follows. In the April Budget statement the 'supply expenditure financed at home' was estimated at about £3,450 million for the whole financial year. But its annual rate was probably lower in the first half of the Budget year, for the 'supply expenditure financed at home' was increasing and in Sir Kingsley Wood's speech in September nothing was said about its exceeding estimates. It is therefore very likely that the actual rate of 'supply expenditure financed at home' was between £3,250 and £3,450 million per annum. Thus if we put it at £3,350 million the error is probably less than £100 million.

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[1] *An Analysis of the Source of War Finance and an Estimate of the National Income and Expenditure in* 1938 *and* 1940 (Cmd. 6261).

[2] The Lease and Lend supplies for 'civilian use' *are* included in this figure: the sales of these supplies to the public leads to an accumulation of extra-budgetary funds which are lent to the Government.

2. 'Supply expenditure financed at home' was thus at a rate of £3,000 million per annum in the period September 1940 to February 1941, and for the first half of the current financial year we estimated it roughly at £3,350 million. This means a rise between the two periods in question by £350 million which was mainly in Government expenditure on goods and services (the change in transfers like old age pensions etc. was small). This increase must have been covered by changes in: (i) indirect tax revenue; (ii) excess of national income over private consumption, appearing in the form of direct tax payments[1] or savings; (iii) disinvestment at home.

The chief item in the increase of indirect taxation is the rise in customs and excise (£110 million per annum), and we take the total increase in the annual rate of indirect taxation between the two periods considered as about £100 million p.a.

The change in the national income may be estimated only very roughly. The national income in the period September 1940 to February 1941, exclusive of payments to the armed forces, may be estimated according to the White Paper at about £5,400 million per annum. We shall calculate the increase of this item in the second half of the current budget year on the assumption that national income (exclusive of payments to armed forces) changes proportionately to the wage-bill. The reason for this assumption is as follows. The relative share of wages in national income is in 'normal times' usually a very stable figure. In the period considered there were two 'abnormal' factors at work, each influencing the relative share of wages in the opposite direction. On the one hand there was some 'inflationary' rise in prices, (i.e. a rise in prices out of proportion with costs) in uncontrolled goods, which tended to reduce the relative share of wages in the national income. On the other there was a shift from 'non-essential' to war industries, and since the percentage profit margin paid on Government contracts is rather lower than on the 'free market'[1] this had a tendency to raise the relative share of wages. And since both these influences seem to have been not very important it is reasonable to assume as a first approximation that the relative share of wages in the national income was stable.

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[1] In which we include the Excess Profit Tax, the Motor Vehicle Duties, and the payments under the War Damage Act

On this assumption it is possible to evaluate the rise in the national income provided we know the percentage change in the wage-bill. Now wage rates increased between the two periods by about 5 per cent. The rise in the number of insured in employment may be estimated from contributions to the Unemployment Fund[2] also at 5 per cent. Assuming that additional factors determining the wage-bill such as overtime etc. remained unchanged, we arrive at a 10 per cent. increase in the aggregate earnings of insured workers. These aggregate earnings, however, are not exactly the same as the wage-bill, because on the one hand they include some salaries and on the other they do not include wages of uninsured workers. The rise from 1938 to 1940 of aggregate earnings computed in this way exceeded a little the rise in the wage-bill according to the White Paper.[3] We therefore take the percentage increase in the wage-bill as 9 per cent. Thus the absolute increase in the national income, exclusive of payments to the armed forces (which was about £5,400 million per annum in the first of the periods considered), may be estimated at about £500 million per annum.

It is still necessary to allow for the increase in payments to the armed forces. But since the change in consumption is estimated below on the basis of retail trade figures, we take into account only the increase in payments to soldiers' dependants, and this is the more justified in that a considerable number of soldiers were sent overseas in the time in question. The addition of the increase in payment to soldiers' dependants[4] will raise the increase in the annual rate of national income between the two periods considered to about £550 million.

Finally the Bank of England statistics of retail trade show that after elimination of seasonal variations retail sales were approximately the same in both periods compared. We assume the same to be the case for the value of consumption as a whole. Thus the rise in the annual rate of the excess of national income over consumption after elimination of seasonal variations would be, according to the above, £550 million.

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[1] This does not imply, of course, that the armament industries do not make much greater profits than civilian industries for the turnover of the former is much larger.

[2] See 'War-time Changes in Employment and the Wage Bill,' BULLETIN Vol. 3, No. 13, page 294.

[3] *Ibid.*, page 298.

[4] Inclusive of amounts deducted from the soldiers' pay proper for their benefit.

3. We may now give the sources of financing the increase in the supply expenditure as follows :

INCREASE (+) OR DECREASE (−) BETWEEN ANNUAL RATES IN SEPTEMBER 1940–FEBRUARY 1941 AND APRIL–SEPTEMBER 1940

Expenditure on supply services financed at home	+ 350 million
Indirect taxation	+ 100 „
Excess of National Income over personal consumption†	+ 550 „
Disinvestment at home †	− 300 „
	+ 350 „

† Free of seasonal variations.

The change in disinvestment has been obtained as a residual and therefore this figure is most uncertain, since the margin of error is something like £200 million. Nevertheless certain conclusions are possible. Disinvestment in the period September 1940 to February 1941 was according to the White Paper £480 million per annum. It seems very probable that home disinvestment in the first half of the current Budget year was substantially smaller. The most likely cause of it is the easing in the first half of the current Budget year in the running down of stocks of consumption goods which had probably occurred on a considerable scale in the period September 1940 to February 1941.

The most important factor in this favourable development in the financial situation is the fact that while incomes increased considerably the value of consumption was stationary. It is difficult to attribute this to any great extent to the increase in income tax which was the main feature of the April Budget. Indeed the new taxes were estimated to yield in the current Budget year only £150 million and the respective deductions from salaries and wages were not yet in operation in the first half of the Budget year. A much more important factor in curtailing consumption was the extension of rationing (in particular the introduction of rationing of clothing and footwear) and shortages of goods, which reached a peak in the summer months. Such shortages curtail consumption in the same way as rationing but in a haphazard fashion, making it impossible for people who have no time or servants to buy the goods, although they have the necessary purchasing power. It is probable that a considerable part of the increase in the excess of incomes over consumption was enforced in this way. To the extent to which this was the case the situation cannot be considered non-inflationary. True, price control was effective in restricting price increases to a rather narrow field, and the rise in prices in relation to costs was probably responsible only to a minor degree for the rise in excess of incomes over consumption. But the divergence between the demand for and supply of consumption goods manifested itself in shortages and queues which may be justly considered a particular form of inflation.

The trend in the financial situation since the beginning of the war may be subdivided into three stages. In the first, lasting up to the end of the summer of 1940, there was really no inflation. Although prices rose sharply in that period they did so more or less in proportion to costs. In the second stage, covering approximately the period September 1940 to February 1941, with which we compared above the second half of the current Budget year, prices started to rise out of proportion with costs, but the inflationary tendency manifested itself chiefly in the running down of stocks. Finally in the third stage, coinciding with the second half of the current Budget year (April to September 1941), the inflation appeared chiefly in the form of shop shortages and queues.

M. KALECKI.

A 'HUMAN NEEDS' DIET IN WAR TIME

CHANGES FROM MARCH 1941 TO NOVEMBER 1941

In BULLETIN, Vol. 3, No. 5, we discussed the cost and the constituents of a war-time 'human needs' diet, that is a diet supplying a properly balanced nutrition at a minimum outlay. The prices quoted in that article were obtained by us from shops in Oxford in March 1941. The diet was given for a family of five persons (husband, wife, and three children of school age) so as to compare as closely as possible with Mr. Beerbohm Rowntree's 'human needs' diet, which he compiled in autumn 1936. The 'man' value of our typical family was 3.75, and the 'man' value of his family was 3.78. The cost of his basic diet—slightly modified by us so as to conform to consumption habits in Oxford—was 23s. 5d., at the prices ruling in autumn 1936, while the cost of an oquivalent diet in March 1941 was found to be about 33s. We further came to the conclusion that only a housewife with exceptional skill in catering and shopping and, moreover, with sufficient leisure, first, to queue up for foods in short supply, and, secondly, to prepare for her family three cooked meals a day, could provide the diet envisaged by us.

During November we again collected prices of foods from the cheapest shops in Oxford and on this basis worked out the cost of a 'human needs' diet. We had, of course, to take account not only of the kinds of food available but also of the average quantities which a purchaser was likely to obtain of certain unrationed foods that were scarce. It would be of little use to discuss in this article in detail the food situation previous to November 17th, as since then important changes in the supply of foods have taken place. A diet schedule worked out before November 17th shows, however, that a diet of the same nutritional value as in March could be bought at about the same cost as in March, in spite of certain changes in its constituents, and especially in spite of a certain shortage of oatmeal, one of the most valuable inexpensive foods. Some prices had risen, but there was a greater variety of relatively cheap foods than in March, which made expenditure on flavouring essences and fancy foods unnecessary. Moreover, all the foods could be obtained without queueing up for them, so that it was actually easier than it had been in March to provide the diet.

Since November 17th, the rations of sugar and fat have been increased, the former by 4 oz. and the latter by 2 oz. per person per week. At the same time, there has come into force a severe restriction in the supply of milk. This latter fact need not affect our 'human needs' diet, as a family of five persons with three children of school age remains entitled to 14½ pints a week.[1] As, however, Lord Woolton has forecast that adults will not always be able to obtain the maximum amount of 2 pints per head per week, we shall also consider further below a modification of the diet so as to allow for a reduction in the consumption of milk to, say, 12 pints per week.

Table I gives the schedule of a 'human needs' diet available after November 17th, and compares it with the similar diet in March. In calculating the outlay we have again, as in March, chosen the lowest average prices at which a skilful housewife in any part of the town could purchase the diet, and not the absolutely lowest prices at which the individual items of the diet were obtainable in Oxford. In some shops no oatmeal was to be had, and most of those shops which sold it supplied it only to their registered customers. Hence we have tabulated two slightly different diets, one on the assumption that the housewife can get some oatmeal, and the other on the assumption that she cannot get it.

Table I

Weekly Diet for a Family of 5 Persons

		November 1941.		*March 1941*
	Price per unit.°	*Quantity (No oatmeal).*	*Quantity (Some oatmeal).*	*Quantity*
(*A*) *Rationed Foods*				
Meat (beef)	10d.	7 lb.	7 lb.	7 lb.‡
Bacon (fat)	1s. 6d.	¼ lb.	none	¼ lb.
Margarine*	7d.†	35 oz.	35 oz.	30 oz.
Lard	9d.	15 oz.	15 oz.	10 oz.
Sugar	4d.	3¾ lb.	3¾ lb.	2½ lb.
Jam and Syrup ...	9d.†	1¼ lb.	1¼ lb.	9 oz.
Tea	2s. 4d.	½ lb.	½ lb.	½ lb.
Cheese	1s. 1d.	15 oz.	15 oz.	¼ lb.
Eggs	2½d.	one	one	one
Outlay on Group (A) :		12*s*. 9¼*d*.	12*s*. 4¾*d*.	10*s*. 6¼*d*.

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[1] In our first article on *A 'Human Needs' Diet* we adopted Mr. Seebohm Rowntree's estimate of milk consumption, *viz*. 14 pints per week.

(*B*) *Main Carbohydrate Foods* :				
Bread	2d.	21 lb.	19 lb.	20 lb.
Flour	2¼d.	2 lb.	2 lb.	2½ lb.
Potatoes	1¼d.	34½ lb.	34½ lb.	34½ lb.
Oatmeal	3¼d.	none	1½ lb.	2½ lb.
Outlay on Group (*B*) :		7*s*. 4*d*.	7*s*. 5*d*.	8*s*. 3¼*d*.
(*C*) *Milk and Vegetables* :				
Milk, fresh, ordinary	4½d.	14 pints	14 pints	14 pints
Ditto, school	1½d.	5 pints	5 pints	5 pints
Root vegetables§ ...	1½d.	7 lb.	7 lb.	7 lb.
Green Vegetables¶ ...	2¼d.†	7 lb.	7 lb.	7 lb.
Outlay on Group (*C*) :		8*s*. 0¾*d*.	8*s*. 0¾*d*.	7*s*. 7½*d*.
(*D*) *Other Food* :				
Sausage Meat (beef)	7d.	2 lb.	2 lb.	2½ lb.
Fish, salt	9d.	2 lb.	2 lb.	1 lb.
Peas	6d.	½ lb.	½ lb.	½ lb.
Lentils } dried ...	7½d.†	½ lb.	½ lb.	¾ lb.
Beans	6d.	1 lb.	1 lb.	½ lb.
Rice	6d.	½ lb.	½ lb.	10 ozs.
Semolina, Cornflour, etc.	7½d.†	¼ lb.	¼ lb.	¾ lb.
Barley	8d.	2 ozs.	2 ozs.	2 ozs.
Cocoa	1s. 2d.	¼ lb.	¼ lb.	¼ lb.
Dried Fruit	9d.	¼ lb.	¼ lb.	—
Condiments	4d.	—	—	—**
Outlay on Group (*D*) :		5*s*. 0¼d.	5*s*. 0¼*d*.	4*s*. 11*d*.
Total Cost of Diet :		33*s*. 2¼*d*.	32*s*. 10¾*d*.	33*s*. 0*d*.‖

° Milk, ordinary and school, price per pint ; Eggs, price of one egg ; Condiments, total outlay ; all other foods, price per lb.

* Half ' special ' margarine.

† Average price.

§ Carrots, Swedes, Turnips.

¶ Generally not sold by weight.

‡ 4 lb. mutton, 3 lb. beef.

** Outlay 3d.

‖ Including 8d. for 1 lb. apples and 1s. for flavouring essences and fancy foods.

The increase in the rations of fat and sugar represents an increase in energy-giving foods which are completely free from protein. Most of the other energy-giving foods, however, contain a measurable and often quite substantial percentage of protein in some form. Thus, to obtain a proper nutritional balance, our diet schedule of March had to be corrected not only by reducing the amount of starchy foods (flour, oatmeal, rice, and semolina) but also by increasing the allowance of essential protein foods (cheese, fish, and legumes). Bacon had already been treated in our diet schedule in March as a 'luxury,' giving a relatively poor nutritional return for its price, and the more plentiful supply of cheaper foods in November made its purchase unnecessary, especially if oatmeal was available for breakfast, so that no bacon was required for flavouring breakfast dishes.

In several instances adjustments in our diet schedule in November were made for reasons other than changes in rationing. Oatmeal was somewhat scarcer than it had been in March and had to be replaced partly or wholly by other foods. Fish had become cheaper and, at the same time, its supply more plentiful, through the introduction of salt fish. As it gives a better return of protein per penny than sausages, the total amount of sausage meat has been reduced in our November schedule in favour of a larger allowance of fish. Not only more fat and sugar but also more cheese, jam, and syrup were obtainable.[1] Meat was actually dearer than in March, although this fact is not brought out in our table. In November cheap cuts of mutton appeared to be scarce in Oxford, and the cheapest cuts of beef were mainly home-killed meat.[2] Hence the meat which could be obtained at 10d. per lb. in November tended to be inferior in nutritional value to that which could be bought at the same average price in March, partly in the form of mutton and partly in the form of imported boneless beef. This loss of nutritional value, and especially of first class protein, is, however, more than counter-balanced by the increase in the cheese ration. Cooking fat must now be taken mainly in the form of lard, which is 2d per lb. dearer than the ordinary cooking fat mixture. Green vegetables also were dearer than in March. In November they were seldom sold by weight, but their average cost worked out at about 2¼d. per lb. In most grocery shops the registered customers could obtain more or less regularly small quantities of dried fruit. Because of the allowance of dried fruit and the increased ration of jam we have omitted fresh apples from our diet schedule in November.

If the milk supply of the family were to fall to 12 pints per week, another half pound of bread and another half pound of fish could be substituted. This would approximately maintain the balance of calorific and protein intake. It would reduce the total cost of the diet by 3½d. per week.

TABLE II

Nutritional Values per Adult Male per Day

	Calories.	*Protein, total.*	*Animal protein.*
B.M.A. Diet	3,400	100 gm.	50 gm.
Human Needs' Diet, March ...	3,310	105 „	49 „
„ „ „ October ...	3,300	101 „	51 „

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[1] When we compiled our diet schedule in March, cheese, jam, and syrup were not yet rationed, but they were in short supply.

[2] Several butchers stated that the lack of the cheapest cuts of meat was due to the lack of demand for them. It seems that most housewives like to take their meat ration in the form of a 'joint,' supplementing it by unrationed meatstuffs and fish. But the largely increased supply of communal meals would probably in any case have led to a shortage of the cheapest kinds of meat.

The nutritional values of the diet are given in Table II, and compared with those of our diet schedule in March, and also with the standard diet recommended by the British Medical Association.

It will be noticed that the diet in November shows a slight increase in the intake of animal protein, as compared with that in March. If a higher calorific intake is desired it could be achieved cheaply by a small increase in the consumption of bread and flour, which also would slightly raise the intake of total protein.

As the data of our Tables indicate, there has been no change in the actual cost of a 'human needs' diet from March 1941 to November 1941,[1] and we have already mentioned that it could be procured in November with less difficulty than in March. For although even now the housewife will not find the shops stocked with all the foods on every day during the week, the foods tabulated by us could be obtained on most days without any queuing up for them. It is nevertheless still only the exceptionally intelligent and skilful housewife who could feed her family satisfactorily on the diet shown in Table I. She will have to cook three meals a day with a minimum consumption of fuel. She will have to learn how to deal with salt fish so as to make it into appetising dishes. If she cannot get oatmeal she will have to serve for breakfast rissoles made with fish, cheese, and sausage meat. Actually, many housewives stated that they did not buy salt fish because their family did not like it—though without being aware of it they did purchase it in the form of ready-made fishcakes. As regards vegetables other than potatoes, it appeared that, other foods being more plentiful, some mothers with large families were using less in November than in March; moreover, vegetables and potatoes seem still frequently to be cooked very wastefully, so that their contents of vitamins and minerals are largely lost. The supply of school meals should, partly for this reason, be a great help in maintaining the children's health.

In our tabulation of the diet we have not allowed for any tinned foods, which normally may be regarded as a luxury capable of being replaced by other foods which are cheaper and equally nourishing. Tinned foods must, however, now be considered as an 'iron ration' which should be stored by every household, and the recent rationing of these foods has drawn special attention to this fact. Most households, even the poorest, will probably buy some of them at regular intervals, using up the older tins and putting away the new ones. In that case the total cost of the 'minimum' diet will be slightly raised. If we assume that a family with a small income per head spends weekly about 1s. on tinned foods, the nutritional value of which could be bought in some other form at about half the price,[2] then the cost of the diet will rise by 6d. per family per week. But very often the housewife will be quite unable to judge the nutritional value of the various kinds of tinned food, and the adjustment in the diet will be made either at the cost of nutritional value or else at an unnecessarily high expenditure of money.

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[1] According to the Ministry of Labour Cost of Living Index the cost of food declined between March and November by 2½%.

[2] *E.g.* herrings, meat roll, tinned beans.

T. SCHULZ.

DIARY

RECRUITS FOR TRAINING

The Government's 'Statement in relation to production,' published recently in the 25th Report of the Select Committee on National Expenditure, gives some figures on training. In the period June 1940 to April 1941 the number of people trained in Government training centres and emergency training establishments, and subsequently placed in employment in engineering industries, was 43,000; the number of persons trained by employers in this period is estimated at four to five times the above figure. It appears thus that the 'output' of trainees available for industry in the ten months from June 1940 to April 1941 was between 200,000 and 250,000, which corresponds to a yearly rate of between 240,000 and 300,000. It is not stated how the output of trainees has developed since April 1941, but the memorandum indicates that 'in many cases the shortage of raw labour is hampering firms' efforts to train, and during the last three months the supply of recruits to government training centres and technical colleges has consistently fallen short of the desired intake.' The reason is that male recruits have become scarce (all suitable ones of medical grades III and IV, 10,000 in all, having been taken, so that only men under or over military age remain) and that an adequate supply of female recruits has not been forthcoming so far. The memorandum pins its hopes on the release of labour from non-essential industries, but the figures given in its earlier part on the release of labour from concentrated industries (108,000 actually released, 40,000 expected to be released) are not encouraging. On the assumption that it is desirable to continue training at least at the rate of 1940–41, the finding of a supply of suitable recruits for training will constitute a serious problem in view of the heavy demands of the services for women.

FUEL ECONOMY

Both the Prime Minister and the Secretary of Mines have assured the country that the coal position is better than had been expected and that stocks are two to three million tons higher than anticipated. This slight improvement in the supply position does not, however, dispense with the need for strictest economy in the use of fuel by non-industrial consumers. In fact, the Mines Department have started a vigorous campaign by advertisements and leaflets urging consumers to exercise the most rigid economy in all kinds of fuel.

At first sight it seems odd, particularly after many attempts have been made to divert ex-miners back to the industry, that the Government should rely on mere appeals to safeguard vital fuel supplies for essential purposes. Rationing is kept in reserve, should the appeal for voluntary economies fail, and the Reports of the Select Committee on National Expenditure which have repeatedly given consideration to the fuel question, indicate that the difficulty of devising a satisfactory rationing scheme for fuel has been a major factor in deciding to call upon the public to economise voluntarily rather than to enforce the desired restriction.

There can be little doubt that fuel rationing is a difficult job. A satisfactory scheme would have to meet the following requirements:

(1) The different types of fuel, coal, coke, gas, electricity and paraffin, must be rationed as a group because they are close substitutes. A point system equating the different fuels and leaving the consumer the choice according to his equipment and habits might go a long way towards solving the problem.

(2) The basic needs of the different non-industrial consumers must be ascertained. A percentage reduction of peace-time consumption, as contemplated at the beginning of the war, is impracticable since evacuation and industrial migration and transfers have changed the needs of the various households. What then should be the principle of rationing? To take the number of rooms per house as a yardstick would probably benefit the occupiers of large houses, while a 'per head' basis would give crowded houses more than they need and thus tend to create black markets in rations. In any case the 'rations' of offices, shops and centrally heated flats would call for special regulations.

(3) Gas and electricity are sold 'on tap'and this makes it difficult to supply the consumer with no more than his ration. Any excess consumption will be discovered ex post only, and although it would be theoretically possible to deduct this excess consumption from the ration of the next period, such a practice might inflict grave hardship on the whole household, while the imposition of financial penalties might not deter better off people from consuming more than their ration.

It is not impossible to overcome these difficulties, but it is likely that a satisfactory scheme may be more complicated than other group rationing schemes and more difficult to administer and to control.

The Table below shows the relative importance of non-industria fuel consumption in peace-time. The amount of coal consumed ir households, offices, shops, etc., is a rather conjectural item, anc 'domestic' is not defined unequivocally in the case of gas anc electricity. Taken as approximations they would seem to show tha from the point of view of coal economy domestic consumption of coal used in grates, boilers and open fires is far more important than the coal used in electricity and gas works for meeting domestic consumption. To produce a thousand units of electricity in 1938 required about 0·64 tons of coal, and about 12 tons of coal were used up in the production of 1000 therms, not reckoning the by-products of carbonisation.

Use of Coal for Non-industrial Purposes in Great Britain 1938

	Total Home Consumption of Coal	*Proportion for Non-industrial Purposes*			*Amount of Coal for non-industrial purposes*
		Domestic[*]	*Commercial*[†]	*Together*	
	Mill. tons	*per cent.*	*per cent.*	*per cent.*	*Mill. tons.*
Domestic	40[‡]	—	—	100	40
Gas[§]	19[¶]	65	15	80	15
Electricity[‖]... ...	15[**]	26	16	42	6
Industrial	112	—	—	—	—
	186			33	61

[*] Lighting, cooking, heating.

[†] Shops, offices, commercial premises.

[‡] Estimates of minimum domestic consumption. Higher estimates and allowance for commercial consumption may increase the figure to 45 or 48 million tons.

[§] P.E.P. Report on the Gas Industry in Great Britain.

[‖] Report 1937-38 of the Electricity Commission.

[¶] 1 ton of coal produces 70-75 therms or 15,000 cu. ft. of carbonisation gas on the average.

[**] 1 ton of coal produces 1,600 units of electricity on the average.

In other words, one-third of internal consumption of coal goes to non-industrial consumers in the form of raw coal, gas and electricity. If this distribution holds approximately good now a 10 per cent. reduction in non-industrial consumption would add about 5 per cent. to industrial supplies. If greater restrictions in domestic consumption were needed it would clearly be desirable to ration raw coal for domestic and commercial purposes and to restrict the use of gas and electricity even by a slightly cumbrous method in order to secure essential supplies for industry.

Strategic Materials in Malaya

The economic development of British Malaya, which consists of the Colony of the Straits Settlements, including Singapore, and of two Protectorates—Federated and Unfederated Malay States—is closely linked up with the political events in the Far East. Two years before the Anglo-American trade boycott of Japan was carried through by freezing Japanese credits, the Chinese members of the Malayan community, representing 40 per cent. of the total population (45 per cent. are Malays), boycotted Japanese goods. Malayan economy, based on agriculture and mining, is largely dependent on the export of its chief products. Europeans are responsible for the growth of industrial crops on large estates, while the small holdings, producing mainly food crops, are cultivated by natives or coloured immigrants. Outstanding among agricultural products are rubber, copra, pineapple and rice. However, rice is not sufficient for the home demand and has to be imported. The mineral wealth of the country consists above all in tin ore, but there are also large deposits of coal, oil, iron, tungsten and manganese ore and some gold.

The importance of Malaya as a source of strategic materials may be gauged from the following table.

PRODUCTION OF STRATEGIC MATERIALS IN BRITISH MALAYA AND IN THE BRITISH EMPIRE AS PERCENTAGE OF WORLD PRODUCTION*

Commodity	*Br. Malaya* *per cent.*	*Total Br. Empire* *per cent.*
Rubber	41.2	52.2
Tin ore	36.0	53.2
Copra †	8.4	32.8
Tungsten ore	2.9	38.0

* Latest figure available.
† Exports.

Malaya holds the first place among the world's tin and rubber producing countries. U.S.A. was the main consumer of Malayan rubber and tin, while Japan took almost the whole iron ore (1·9 million tons) and manganese ore (33,000 tons). Other Axis territory imported the larger part of copra exports. U.K. absorbed negligible amounts of Malayan tin, and only about one-fifth of rubber and copra.

MALAYAN EXPORTS OF STRATEGIC MATERIALS, 1939. PERCENTAGE DISTRIBUTION

Commodity	*Unit*	*Total weight*	*Total value* £000	*To U.K. per cent.*	*Japan per cent.*	*Other Axis per cent.*	*U.S.A. per cent.*
Rubber, raw ...	000 tons	553	43,500	13	6	14	54
Tin	000 tons	82	18,400	0	11	16	69
Copra (1938)	000 tons	186	1,500	22	—	58	—

30 per cent. of Malaya's exported motor spirit, and 17 per cent. each of kerosene and turpentine, went to Japan, and 47 per cent. of lubricating oil to Thailand.

82,000 tons of tin were exported in 1939. 53,000 tons came from Malayan home ore production, which by the prohibitive export duty of 40 per cent. is entirely directed to the Singapore smelting works; the remaining 29,000 tons originated in imports from other countries, mainly from Thailand (55 per cent.), Dutch East Indies (26 per cent.) and Indo-China (5 per cent.), which shipped tin ore to Malaya to have it smelted in Singapore. (The imported ore had a tin content of not less than 70 per cent. compared with 75·5 per cent. of Malayan ore). Since Thailand was dependent on Malaya for the smelting of her tin ores, her occupation by Japan will now necessitate the erection or extension of tin smelting works in Japanese and occupied territory. For the time being, however, Thailand's tin ore will be of no use to Japan since the smelting works of Singapore are closed to her.

45 per cent. of Malayan rubber exports came from large estates with more than 100 acres, 20 per cent. from smaller estates and the rest from rubber imported from other countries, mainly from Dutch East Indies, Thailand and French Indo-China.

The dependence of Malaya on the American market and, on the other hand, the importance of Malaya for the American requirements of rubber and tin are of such a magnitude that the outbreak of hostilities in the Pacific will considerably affect both countries. U.S.A. has accumulated large stocks and has tried lately to make herself more independent by the creation of large tin-smelting and synthetic rubber works. Their existence may have far-reaching consequences for the future economic development of Malaya.

MILK DISTRIBUTION

Since November 23rd, the supply of milk to adults living in towns has been rigorously cut down, limiting them to two pints a week, unless they are obtaining their milk from a producer retailer. In that case their supply will probably vary only with the cows' yield, and those who used to take relatively large quantities are likely now to get much more than their less fortunate fellow-citizens whose daily milk is supplied by a retailer who is not himself a producer. This purely accidental 'preferential treatment,' which also applies to all people outside the towns, is probably unavoidable, as the cows' yield is subject to uncontrollable fluctuations, and their 'output' is a highly perishable commodity. Sick persons who obtain a doctor's certificate are allowed additional milk; but no provision has been made for those who habitually are small meat eaters and, especially, for vegetarians. Their only source of first class protein is now 8 ounces of cheese (to be raised to 12 oz. on December 15th) and two pints of milk a week, which together about provide the necessary first class protein for two days. The distribution of tinned milk and milk powder seems to be rather haphazard; moreover, a tin per month represents but an infinitesimal addition to a person's daily intake of animal protein. It would have been easy to avoid these shortcomings in the scheme of milk rationing. First, some special provision could have been made regulating the supply of milk to vegetarians. Secondly, tinned and powdered milk could have been included amongst the tinned rationed foods, so that a person would be able to buy with his points either meat, fish, or milk.